

ABSTRACT OF THE DISCLOSURE

Semiconductor devices and methods for fabricating semiconductor devices are disclosed. The methods and devices utilize a silicon-containing dielectric layer. In one embodiment, a silicon-containing material is deposited on a substrate. The deposited material is processed with a reactive agent to react with silicon atoms of the deposited material to form the dielectric layer. The silicon-containing dielectric layer can allow for improved or smaller semiconductor devices. Improved or smaller semiconductor devices may be accomplished by reducing leakage and increasing the dielectric constant.